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PATENT

1. A test set for testing a communications network comprising:
at least one signal input port;
test circuitry coupled to the at least one signal input port, the test circuitry receiving signals from the signal input port and generating test data;
a processor coupled to the test circuitry, the processor receiving test data and generating test results;
a user input device coupled to the processor, the user input device sending commands to the processor; and
a display operatively coupled to the processor, the display receiving and showing the test results,
wherein the test set is capable of performing line qualification and connectivity testing.
2. The test set of claim 1 wherein line qualification includes transmission line tests, the transmission line tests includes at least one of digital multimeter tests, transmission impairment measurement set (TIMS) tests, and time domain reflection (TDR) tests.
3. The test set of claim 1 wherein the display is a graphical display.
4. The test set of claim 3 wherein the graphical display shows selected ones of the test results in a graphical form.
5. The test set of claim 1 wherein the connectivity testing includes bit-error-rate testing and loopback testing.
6. The test set of claim 1 wherein connectivity testing is performed using a predetermined transmission technology.

7. The test set of claim 6 wherein the predetermined transmission technology is one of E1, T1, ISDN, DSL, HDSL, ADSL, and xDSL.

12. The test set of claim 1 further comprising:
a modem module operatively coupled to the processor, the modem module receiving and processing the test data and generating processed results, and
wherein the display receives and displays the processed results.

13. The test set of claim 12 wherein the modem module includes a device for storing an identification value that identifies the modem module to the test set.

14. The test set of claim 12 wherein the modem module is configured to perform xDSL connectivity testing.

15. The test set of claim 12 wherein the modem module is configured to perform ATM connectivity testing.

16. A telecommunications transmission test set comprising:
at least one signal input port;
test circuitry coupled to the at least one signal input port, the test circuitry receiving signals from the signal input port and generating test data;
a processor coupled to the test circuitry, the processor receiving test data and generating test results;
a modem module operatively coupled to the processor, wherein the modem module, when directed, receives and processes the test data to generate processed results, and wherein the processor generates the test results based, in part, on the processed results;

a user input device coupled to the processor, the user input device sending commands to the processor; and

a display coupled to the processor, the display receiving and displaying the test results,

wherein the test set is configurable to perform line qualification or connectivity testing as selected by a command received from the user input device.

17. The test set of claim 16 wherein line qualification includes digital multimeter tests, time domain reflection tests, and transmission line impairment tests.

18. The test set of claim 16 wherein connectivity testing includes bit-error-rate testing and loopback testing.

19. The test set of claim 16 wherein connectivity testing can be performed using a predetermined transmission technology.

22. A test set for testing a communications network comprising:
a master tester unit for receiving a signal from the communications network and processing the signal to produce intermediate results; and
a modem module coupled to the master tester unit, wherein the modem module receives and processes the intermediate results and provides the processed results to the master tester unit,

wherein the test set is configurable to perform line qualification and connectivity testing, and wherein the master tester unit displays the processed results.

23. The test set of claim 22 wherein the master tester unit includes a graphical display for showing the test results in graphical form.

24. The test set of claim 22 wherein the modem module includes a memory for storing an identification value that identifies the modem module to the master tester unit.

25. The test set of claim 22 wherein the modem module determines a maximum transmission rate on the communications network based on the processed results.

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28. (New) A test set for testing a digital subscriber line (xDSL) communications network, comprising:

- at least one xDSL signal input port that connects the test set to the xDSL communications network;
- line qualification test circuitry, coupled to the at least one xDSL signal input port, that performs line qualification testing on the xDSL communications network;
- an xDSL modem module that attaches removably to the test set, wherein the xDSL modem module emulates a particular type of xDSL modem, enabling the test set to test the xDSL communications network in accordance with the particular type of xDSL modem;
- an internal bus that couples the line qualification test circuitry and the xDSL modem module;
- a processor, coupled to the internal bus, that operates with the line qualification test circuitry to selectively generate line qualification test data, and with the xDSL modem module to selectively generate xDSL connectivity test data, and that selectively processes the line qualification test data and the xDSL connectivity test data, in accordance with a user selection;
- a display unit, coupled to the internal bus, that selectively displays one or more of the line qualification test data and the xDSL connectivity data in accordance with the user selection.

29. (New) The test set of claim 28, wherein the xDSL modem module is configured as a plug-in card.

30. (New) The test set of claim 28, wherein the xDSL modem module includes a stored identification value, wherein the test set reads the stored identification value when the xDSL modem module is attached to the test set, and wherein the test set performs xDSL tests that relate to the stored identification value.

31. (New) The test set of claim 28, wherein the test set stores a software program and executes selected portions of the software program as determined by the xDSL modem module emulating the particular type of xDSL modem.

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32. (New) The test set of claim 28, wherein the test set is configured as a master test set and a second test set is configured as a slave test set, wherein the xDSL modem module of the master test set and the xDSL modem module of the slave test set both emulate the particular type of xDSL modem, and wherein the master test set and the slave test set each perform respective functions to test the xDSL communications network.

33. (New) The test set of claim 28, wherein the xDSL modem module emulates a central office xDSL modem, and wherein the test set is configured to test respective ends of an xDSL loop with a second test set that includes a respective xDSL modem module that emulates a remote xDSL modem.

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34. (New) The test set of claim 28, wherein the test set is configured to test respective ends of an xDSL loop with one of a central office xDSL modem and a remote xDSL modem that also corresponds to the particular type of xDSL modem.